

Best Available Copy

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 June 2002 (06.06.2002)

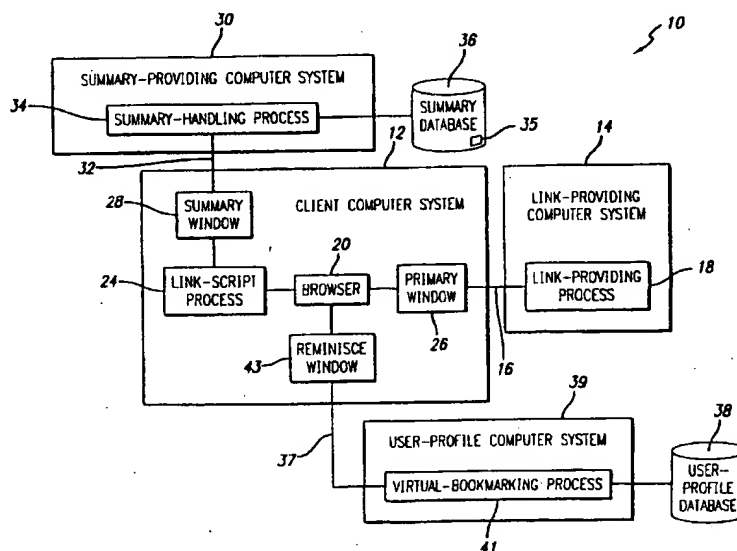
PCT

(10) International Publication Number
WO 02/44948 A2

- (51) International Patent Classification⁷: **G06F 17/30**
- (21) International Application Number: **PCT/US01/44375**
- (22) International Filing Date:
28 November 2001 (28.11.2001)
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
09/723,966 28 November 2000 (28.11.2000) **US**
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US 09/723,966 (CON)
Filed on 28 November 2000 (28.11.2000)
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **ARMSTRONG, Juliet** [US/US]; 70 Park Street #64, Somerville, MA 02143 (US). **WEST, David** [US/US]; 18 Union Street, #1, Cambridge, MA 02141 (US). **MILBERT, Randy, L.** [US/US]; 339 Broadway Street, #3, Cambridge, MA 02139 (US). **VU, Sonny** [US/US]; 641 Green Street, Cambridge, MA 02139 (US). **DAO, Ngon, D.** [US]; 76 Fifth Street, #2, Cambridge, MA 02141 (US).
- (74) Agent: **LICHAUCO, Faustino, A.**; Fish & Richardson, P.C., 225 Franklin Street, Boston, MA 02110-2804 (US).
- (81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.**
- (84) Designated States (regional): **ARIPO** patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW).

[Continued on next page]

(54) Title: **INTERACTIVE DISPLAY OF A DOCUMENT SUMMARY**



(57) Abstract: A method for displaying information indicative of the content of a target document of a link displayed in a first window includes detecting an event indicative of a user's interest in the target document. The user's interest can be indicated by moving a mouse pointer into an active region associated with the link. Upon detecting this event, information indicative of the content of the target document is retrieved and presented to the user without having to open the target document. One mechanism for presenting the information is to open a second window and to display the information in the second window.

WO 02/44948 A2



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *without international search report and to be republished upon receipt of that report*

5 **INTERACTIVE DISPLAY OF A DOCUMENT SUMMARY**

The invention relates to software associated with internet navigation, and in particular, to software for the presentation of document summaries or other information indicative of the content of a target document.

BACKGROUND

10 A user who wishes to find information about a particular topic on the internet will often encounter a page of links leading to potentially relevant information. When the user moves a pointer over a link, the pointer changes its appearance, thereby inviting the user to click on that link. A user who encounters a page having a multiplicity of links, referred to herein as a "link-rich page," often has little or no basis for determining the relevance of
15 the information found in a target document to which that link points. In many cases, the user's only option is to click on one or more links and endure the sluggishness associated with opening documents on the internet.

In some cases, the link-rich page may also provide a search engine. The user can then pass a search query to the search engine, which can then return a page having links
20 determined by the search query. Although this can significantly reduce the number of links, it does not provide the user with information about the content of the document to which the link points.

To assist a user in assessing the relevance of a document, many link-rich pages provide additional information concerning the content of that document. For example, the
25 link-rich page may include short excerpts from the top of the document under the assumption that text located near the top of the document is indicative of the nature of the document. In some cases, human editors may have provided a cursory summary of the nature of the document for display on the link-rich page.

Because of the limited extent of a computer display, any additional information
30 on a link-rich page is generally abbreviated. In many cases, the additional information is so highly abbreviated that it becomes difficult to determine the nature of the document.

- 5 In those cases, a user may find it necessary to actually open the document to determine whether that document is of any further interest.

SUMMARY

The invention provides for the display of information derived from the target document without the need to actually open the target document. This enables a user who
10 encounters a link-rich page having a multiplicity of links to target documents to quickly view information derived from the target document of each link.

The method includes detecting an event indicative of a user's interest in a particular link shown on the link-rich page. Such an event might be the entry of a mouse-pointer into an active region associated with that link. Following detection of the event,
15 information indicative of the content of that document is retrieved and presented to the user. One way of presenting this information to a user is to open a second window and to provide a video display of that information to the user.

In one embodiment, the second window is created by instructions embedded in the link. In another embodiment, the instructions apply to all links in the link-rich page.
20 In both of these embodiments, the instructions are in a form that can be interpreted by a conventional browser. As a result, the user need not download additional software to enjoy the benefit of the invention. The second window is capable of displaying information that includes text, graphics, animations, and any other object that can be displayed in a conventional browser window.

25 The invention optionally includes providing one or more user-interface elements for interacting with the second window. These user-interface elements can include interface elements that enable a user to open the target document, to save information indicative of the location of the target document, and to retrieve information indicative of one or more target documents. The information indicative of the location of the target
30 document can be saved locally, or on a remote user-profile computer system.

5 These and other features of the invention are described in the following detailed description and its accompanying figures, in which:

BRIEF DESCRIPTION OF THE FIGURES

FIG. 1 illustrates a system for carrying out the principles of the invention;

10 FIG. 2 illustrates a modified result-page provided by the link-providing process shown in FIG. 1;

FIG. 3 is an abstract representation of the link-rich page of FIG. 2 in which each of the links includes an instruction for displaying summary information;

15 FIG. 4 is another abstract representation of the link-rich page of FIG. 2 in which a single global instruction for displaying summary information applies to all links on the page.

FIG. 5 shows a summary window containing a summary of a document listed in the link-rich page of FIG. 2;

FIG. 6 shows information added to a remembered-site pane of the summary window shown in FIG. 5; and

20 FIG. 7 shows a remotely maintained virtual workspace displayed in a reminisce window created by pressing the "Reminisce" button in the summary window of FIG. 5.

DETAILED DESCRIPTION

25 The detailed description that follows describes but one of many embodiments of the invention. It is therefore intended to be illustrative of the invention and not to be limiting in any way. For example, the description describes a system having a plurality of different computer systems interconnected by a global computer network such as the internet. However, it will be appreciated by one of ordinary skill in the art to which the invention pertains that the different computer systems can be integrated into a smaller

5 number of computer systems or into a single computer system. It will also be appreciated
by one of ordinary skill in the art that the different computer systems can be
interconnected by networks other than the internet. Although the description suggests that
the different computer systems that participate in the implementation of the method of the
invention are geographically dispersed, one of ordinary skill will recognize that this need
10 not be the case. Two or more of these different computers can be located proximate to
each other without departing from the scope of the invention.

The specific embodiment set forth below describes a system in which user input is
achieved by means of a mouse or other pointing device. This is not meant to preclude the
use of other mechanisms for providing input. For example, a user may provide input by
15 uttering commands, using an eye-tracking device, or through a command line interface.
In addition, although the specific embodiment set forth below describes a system in
which the output is provided by the display of text on a computer monitor, this is likewise
not intended to preclude the use of other output modes. For example, when the nature of
the output permits, a computer system incorporating the invention can also provide voice
20 output.

The following description is thus an aid in determining the scope of the invention.
It is not definitive of that scope. The limits of the invention are defined only by the
appended claims.

FIG. 1 shows one specific example of a system 10 incorporating the summary
25 presentation mechanism of the invention. The illustrated system 10 includes a client
computer system 12 in communication with a link-providing computer system 14 over a
first internet connection 16. Examples of link-providing computer systems include
corporate information sites having web pages with links to other web pages within the
site, search engine sites that dynamically generate web pages of links in response to user
30 search queries, and retailer sites containing pages of links leading to descriptions of
articles for sale.

5 Although FIG. 1 illustrates two computer systems in communication over an internet connection, it will be understood that other connections between computer systems are within the scope of the invention. For example, the client computer system 12 and the link-providing computer system 14 can be connected through a local area network.

10 As used herein, the term "computer system" refers to a physical machine having one or more processing elements and one or more storage elements in communication with the one or more of the processing elements. The term "process" refers to software that is being run on a computer system.

 The link-providing computer system 14 is shown executing a link-providing
15 process 18 for generating a link-rich page in response to instructions from a browser 20 executing on the client computer system 12. The link-rich page is typically a page having a large number of links pointing to documents that may contain information of interest to the user. The link-rich page can be a dynamically generated page or a static page. One of many examples of a dynamically generated page is a page generated by a search engine
20 in response to a user-query. One example of a static page is a site index or site map such as those provided at many web sites. Another example of a static page is a page from a sales catalog. One of ordinary skill in the art will recognize that link-rich pages can arise from other sources as well.

 The use of the term "link-rich page" is not meant to imply any particular upper or
25 lower bound on the number of links that might exist on a link-rich page. That term is selected only because the invention is useful in the case of a link-rich page having a large number of links. However, the invention is equally applicable to a page having only a single link.

 A link on a typical web page is created by designating a portion of the web page
30 to be an active region and providing instructions to be executed upon the occurrence of an event within the active region. By far the most common instructions provided on a

5 typical web page are instructions to jump to a specified location upon the occurrence of a mouse-click within the active region. Other events can also cause the execution of instructions. In particular, the entry of a mouse pointer into an active region, without a click of the mouse button, is an event that can be used to trigger the execution of instructions associated with that link.

10 A link-rich page provided by the link-providing process 18 will have been previously modified to include additional instructions, either as part of each link, or globally, to apply to all links in the link-rich page. Execution of these additional instructions is triggered by the entry of a mouse-pointer into the active regions associated with those links. However, other events besides mouse-entry can be used to trigger the
15 execution of these additional instructions. For example, the additional instructions can be made to execute upon the occurrence of a click on the right mouse button. Or, the link-rich page may be configured so that a double-click triggers opening of the target document of the link and a single-click triggers execution of these additional instructions. What is important is that there be a triggering event that does not open the target
20 document of the link but instead causes the execution of the additional instructions.

The additional instructions for each link include instructions for displaying to the user information indicative of the content of the document to which that link points. This information, which is hereafter referred to as "summary information," can be hard-coded into the link itself. Alternatively, the link can include information from which a pointer
25 leading to the summary information can be derived. Such a pointer can be a URL pointing to a location on a remote computer system or an address to a file and directory name for locating a file on a local file system.

In another embodiment, the link-rich page includes an instruction that applies to all links on the link-rich page. In this case, each link includes information from which a
30 pointer leading to summary information can be derived.

5 The pre-processing of link-rich pages can be performed by a background process. The manner in which the pre-processing is performed is not of importance to the subject matter of the invention. What is important is that the link-rich page includes instructions for display of summary information about one or more target documents upon the occurrence of a triggering event.

10 In one embodiment, a link on a link-rich page that has been modified to carry out the method of the invention includes a link script that is executed upon the entry of a mouse pointer into the active region enclosing a link. The link script provides instructions for creating a second window and displaying therein the summary information. The summary information can be text describing the content of the target document for that
15 link, selected text from the target document, or graphics and multimedia clips providing information indicative of the content of the target document of that link, or any combinations of the foregoing. The multimedia clips can be audio clips, video clips, or any combination thereof. The displayed summary information can be formatted in any manner that text on a browser window can be formatted. For example, when the
20 displayed summary information includes text, formatting can include specification of font, size, color, or style. The layout of the content can also be controlled in the same manner that the layout of content in a browser window can be controlled. For example, text and other objects can be centered, justified, and indented in the same manner in which similar formatting is performed in a conventional browser window. Where the
25 display content includes audio clips, formatting can include adjustment of volume and pitch, and layout can include the utterance of words indicative of such features as bullets and that would be apparent upon inspection of corresponding visual content.

 Although the term "summary information" is used throughout this specification, the use of the adjective "summary" is not intended to limit the nature of the information
30 displayed in the second window. The summary information can include other information pertaining to or obtainable from the link-rich web site.

5 The link-rich page from the link-providing computer system 14 is then transmitted to the client computer system 12 across the first internet connection 16. The browser 20 then displays the link-rich page to the user in a primary window 26.

 A user who desires additional information concerning a target document of a link in the link-rich page interacts with the primary window 26 to cause the above-mentioned triggering event. In the illustrated embodiment, the triggering event is the entry of a mouse pointer into an active region enclosing a link within the link-rich page. However, as noted above, a system embodying the invention can provide for other triggering events.

 In response to the occurrence of the triggering event, a link-script process 24
15 executing on the client computer system 12 opens a summary window 28 and establishes communication with a summary-providing computer system 30 over a second internet connection 32. Although the window opened by the link-script process 24 is referred to in this specification as a "summary window," this is not meant to imply that only summary information can be placed in that window. That window is referred to as a "summary
20 window" only because in the illustrated embodiment, that window displays information indicative of the content of the target document of the link. The link-script process 24 also provides a summary address, or information from which a summary address can be derived, to a summary-handling process 34 executing on the summary-providing computer system 30. As used herein, the term "address" includes a location that contains
25 information leading to a target document, either directly or indirectly.

 The summary-handling process 34 uses the summary address provided by the link-script process 24 to retrieve summary information 35 for the target document from a summary database 36. The summary-handling process 34 then transmits the summary information across the second internet connection 32 to the client computer system 12 for
30 display in the summary window 28. Alternatively, if the summary information is hard-coded into the link, that information is displayed in the summary window 28 without the intervention of the summary-providing computer system 30.

5 In another embodiment, the summary-handling process 34 can pre-fetch all summary information associated with a link-rich page to ensure immediate availability of that information. A disadvantage of this implementation, however, is that if the user ultimately views only a small fraction of the summaries available, much of the additional load on bandwidth will have been wasted.

10 After having viewed the summary information 35 in the summary window 28, the user may want to view summary information for target documents associated with other links in the link-rich page displayed in the primary window 26. If, after having viewed its summary information, the user considers the target document of a link to be of sufficient interest, the user may also want to create and store a virtual bookmark to facilitate later
15 access to that target document. To do so, the user interacts with the summary window 28 to cause the transmission of a "remember" instruction, together with information identifying the target document, across a third internet connection 37 to a user-profile computer system 39. Such information typically includes, but is not limited to, the target document address or URL to enable retrieval of the target document, and a document title
20 to enable the user to easily recognize the document. The "remember" button can also be programmed to transmit additional information to the user-profile computer system 39. Such additional information can include, for example, information regarding the user. A virtual-bookmarking process 41 then stores the information identifying the target document in a user-profile database 38 for later retrieval by the user and any additional
25 information that the "remember" button has been programmed to provide.

 As suggested by FIG. 1, the user-profile database 38 is associated with a user-profile computer system 39 that is remote from the client system 12. However, in an alternative embodiment, the user-profile database 38 can be maintained at the client computer system 12.

30 Conversely, the user may want to retrieve identifying information from the user-profile database 38. In such a case, the user interacts with the summary window 28 to transmit a "reminisce" instruction to the user-profile computer system 39 across the third

5 internet connection 37. The virtual-bookmarking process 41 then retrieves the desired information from the user-profile database 38 and transmits it to the client computer system 12 over the third internet connection 37. These remembered links are then displayed to the user in a reminisce window 43. However, it is also possible for these remembered links to replace the contents of either the summary window 28 or the
10 primary window 26.

FIG. 2 shows a computer display on which a primary window 26 displays a typical link-rich page 40. The illustrated link-rich page 40 includes a list 42 having entries corresponding to each of four documents. A representative entry 44 includes a document title 46, additional information concerning the document 48, and a URL 50
15 locating the document. The document title 46 is underlined, or otherwise emphasized, to indicate that it is within an active region having a link to a document at the indicated URL 50. The URL 50 can likewise be highlighted to indicate that it is within an active region having a link the document that it identifies.

In addition to the primary window 26, the display optionally includes an icon 51
20 floating above the primary window 26. The icon 51 indicates that the summary presentation mechanism of the invention is active. However, other mechanisms that do not consume space on a display can also be implemented. For example, a link having summary information available for display may be rendered in a difference color.

As shown in the more abstract representation of FIG. 3, the link-rich page 40 of
25 FIG. 2 can be viewed as four text regions 52a-d and four active regions 54a-d. Each active region 54a-d corresponds to one of the underlined document titles 46 in FIG. 2. These active regions 54a-d each have, incorporated within them, an instruction 56a-d to open a target site in response to a user-initiated event. In most cases, the target site is a document whose contents correspond to the content of text or other objects contained in a
30 target site. Typically, the user causes the browser 20 to open a target site by moving a mouse pointer 58 into an active region 54a and, with the mouse pointer 58 still in the active region 54a, clicking on a mouse button.

5 Not visible in FIG. 2, but nevertheless present in the link-rich page 40 as shown in FIG. 3, are the instructions 56a-d for executing a link-script process 24. These instructions create a link-script process 24 following entry of a mouse pointer 58 into an active region. In the preferred embodiment, the instructions for creating the link script process 24 are encoded as JavaScript instructions. Since most modern browsers include a facility for interpreting JavaScript instructions, a client computer system 12 can readily
 10 create and execute the link script process 24 without the need to download any additional software.

The embodiment described herein is one in which JavaScript is used to carry out the principles of the invention. Other client-side scripting mechanisms, such as VBScript, or indeed any scripting mechanism supported by a browser can also be used. Such
 15 scripting mechanisms can include scripts, executables, and plug-ins.

In another embodiment, shown in FIG. 4, the link-rich page 40 includes a global instruction 55 to open a target site in response to the occurrence of the user-initiated event. In this case, each active-region 54a-c includes a pointer 57a-c containing
 20 information from which the global instruction 55 can locate content to present to a user. In this embodiment, the global instruction 55 applies to all active regions 54a-c within the link-rich document 40. The global instruction 55 is typically a JavaScript function that extracts the pointer 57a from an active region 54a to derive a location containing the summary information. Such a JavaScript function might appear as follows:

```

25      <JAVASCRIPT>
          function GlobalOnMouseOver (Event)
          {
              if (GetEventSource(Event) == HTML_ANCHOR)
              {
30                  ShowSummaryWindow
                      ("http://www.firespout.com/"+GetEventUrl(Event));
              }
35          document.onmouseover = GlobalOnMouseOver;
  
```

5 </JAVASCRIPT>

 In this instruction, the pointer is the value returned by "GetEventUrl(Event)"
This value is concatenated with the string "http://www.firespout.com/" to form a URL for
10 a location containing the summary information. The instruction then opens a summary
window and places into it the content found at this URL.

 The link-script process 24 expands the icon 51 into a summary window 28, as
shown in FIG. 5. The summary window 28 is an interactive window that can retrieve and
display a document stored on a computer system. In addition, the link script process 24
15 causes the retrieval of information indicative of the content of the target document of the
link and places that information in the summary window 28. This information can be
hard-coded into the link itself. Alternatively, the link-script process 24 can retrieve from
the link a summary address that points to a location containing the information to be
placed in the summary window. This address can be a summary URL pointing to a
20 document whose contents are to be placed in the summary window 28. One specific
convention for forming the summary URL is to append a portion of the URL identifying
the target site to a domain name that identifies a summary-providing computer system 30.
For example, the summary URL for the document highlighted in FIG. 4 might be:

 "http://firespout.com/www.mwdesign.co.uk"
25 or

 "ftp://www.firespout.com/www.mwdesign.co.uk"
or a network address such as

 "\\firespout\\mwdesign".

- 5 These are but a few of the many ways to form the summary URL. For example, the summary information for a target document can also be stored on the same computer system as the target document itself. In such a case, the summary URL could be:

“http://www.mwdesign.co.uk/www.firespout.com/summary”

- 10 One of ordinary skill in the art will recognize that other conventions for forming a URL pointing to a summary can be devised. The selection of such a convention is a mere implementation detail. Hence, a convention other than those specifically disclosed herein is intended to be within the scope of the present invention.

- 15 The summary-providing computer system 30 includes software for maintaining a file structure for storage of summaries of large numbers of documents. These summaries can be created in a variety of ways. For example, human editors can be employed to create the summaries. Alternatively, summaries can be machine generated by a summary generation engine. The specific manner in which the summaries are generated is not important to the structure and operation of the invention.

- 20 By convention, the summary-providing computer system 30 maintains the summaries in directories that are named to correspond to the URL leading to the document being summarized. For example, a summary of the document found at

“ftp://www.mwdesign.co.uk”

- 25 would be kept in a directory named

“www.mwdesign.co.uk”

5 in a file structure accessible to the summary-providing computer system 30. This is advantageous since the summary-providing computer system 30 can then access the summary by simply stripping away the domain name prefixed to the summary URL already provided by the link script process 24.

One of ordinary skill in the art will recognize that other conventions for storing
10 summary information can be devised. The selection of such a convention is a mere implementation detail. Hence, a convention other than those specifically disclosed herein is within the scope of the present invention.

The summary-handling process 34 retrieves a summary 35 of the target document from the location identified by the summary URL and provides that summary to the client
15 computer system 12. This results in the display of the summary 35 of the target document in a summary pane 64 of the summary window 28, as shown in FIG. 6. As a result, by allowing the mouse pointer 58 to hover over an active region, the user is able to view a detailed summary 62 of the document without having to actually open the document. In many cases, this enables the user to determine, without the time commitment associated
20 with opening the document, whether that document is of further interest.

Because the summary pane 64 can be provided with a scroll bar 66, the summary 62 can be made longer than would be practicable on the link-rich page 40. In addition, because the summary window 28 is a full-featured browser window, the summary provided by the summary-providing computer system 30 can also include objects such as
25 graphics 68, animations, sound clips, or other embedded objects that would normally be accessible on a conventional browser window. As a result, the viewer is able to see a summary of a target document that is far more extensive, both in its length and in the richness of its features, than that which could reasonably be unobtrusively displayed in a conventional link-rich page.

30 If after having read the detailed summary 62 the user finds that the document is of further interest, he can open that document by clicking on the title of that document in the

5 browser window. This causes the opening of a new browser window and the placement into that browser window of the contents of the document whose summary 62 is currently in the summary pane 64. In an alternative embodiment, clicking on the document title results in the replacement of the contents of the primary window with the contents of the document whose summary 62 is currently displayed in the summary pane 64.

10 The summary window 28 also includes a "Remember" button 70 that, when clicked on by a user, causes information identifying the target site to be displayed in a remembered-site pane 72 of the summary window 28. The remembered-site pane 72, an example of which is shown in FIG. 6, enables the user to sequentially view summaries of a large number of documents without losing track of those documents that piqued his
15 interest.

The illustrated "Remember" button 70 is but one user-interface element for storing a link to a target document. In alternative embodiments, a user can execute those instructions for storing a link to a target document by choosing a menu command or by uttering pre-defined words.

20 As indicated by the underlining, each entry in the list displayed in the remembered-site pane 72 is within an active region having a target site corresponding to that entry. This enables the user to double-click on a selected entry from that list to jump directly to the site identified by that entry.

In an optional feature of the invention, the "Remember" button 70, or another
25 user-interface element, can be programmed to save information identifying the target site in the user-profile database 38. This allows the user to maintain a list of selected sites at a remote site that is independent of the particular machine being used by the user. Alternatively, such a list can be maintained locally, at the particular machine being used by the user.

30 To complement the "Remember" button 70, the summary window 28 also includes a "Reminisce" button 74 that, when clicked on by the user, causes the display of

5 text regions containing text descriptive of remembered sites previously stored in the user-
profile database with the "Remember" button 70. These text regions are displayed in a
reminisce window 76, as shown in FIG. 7. As indicated by the underlining, the text
regions are within active regions having target sites corresponding to the documents
described by the text within the text regions. As a result, a user who views the reminisce
10 window 76 can readily jump to one of the remembered sites listed in that window 76.

The illustrated "Reminisce" button 74 is but one user-interface element for
executing the instructions for recalling remembered links to user-selected target
documents. In alternative embodiments, a user can execute those instructions by choosing
a menu command or by uttering pre-defined words.

15 The summary presentation interface can include interactive features in addition to
those already described. For example, the interface may include a note-appending feature
to allow a user to associate text of other objects with a particular summary. Or the
interface can include a facility for executing a customized user-defined script. Such a
script may cause transmission of the summary information to another application, for
20 example by email.

The foregoing description and the claims that follow presents an embodiment in
which information is passed between a user and a computer system using conventional
means such as a display monitor, a keyboard, and a pointing device, such as a mouse.
However, this is not meant to preclude the use of more exotic mechanisms for passage of
25 information between a user and a computer system. Other mechanisms for delivering
information from a user to a computer system include:

- (1) an audio interface that recognizes spoken commands;
- (2) an eye-tracking device that recognizes where a user's eyes are pointing and
processes this information to determine the information that a user wishes to
30 communicate;

5 Other mechanisms for delivering information from a computer system to a user include:

- (1) a speech synthesizer that delivers information to a user by means of spoken words.

10 Certain terms used throughout this specification and claims, although originating in the context of conventional visual displays, are intended to include corresponding functions in the context of other types of information delivery. For example:

- (1) "Display" refers to the presentation of information, and includes, in addition to a visual display, a spoken recitation of information. Indeed, the Latin root of "display," which is "displicare," means "to unfold" and carries no implication
15 of visual, as opposed to audio, presentation of information.

- (2) "Window" refers to any set of information available for presentation to a user. A "window" can include information displayed in a portion of a visual computer display. However, a window can also encompass the entire visual computer display. In the context of the audio delivery of information, a
20 "window" refers to the set of information that can be spoken to the user upon the user's request.

- (3) "Formatting" refers to the enhancement of the information to be presented to the user. In the context of a video display, formatting has its conventional meaning in the art of changing fonts and layout of text and other objects, changing display colors, and similar functions. In the context of an audio
25 display of information, formatting may include the manner in which words are spoken, for example volume, pitch, length of intervals between words, the setting of an option to read punctuation aloud, the accent to be used, and the like.

5 In addition, the foregoing description and claims refer to the display of a document "summary." As used herein, "summary" is intended to include any information indicative of the content of the document. Such information can be derived from information within the document itself or from information gathered from outside the document. The use of the term "summary" is not meant to imply that the information
10 indicative of the content of a document is somehow shorter than the document. Indeed, if either the target document or the summary were to include graphics or other objects in addition to words, the concept of "length" of a document would not even be well defined.

 Although the invention has been described above in the context of one embodiment, this is but one of many embodiments that incorporate the principles of the
15 invention. The foregoing description is illustrative the invention and is therefore not to be construed as limiting the scope of the invention. Rather, the scope of the invention is to be determined by the appended claims.

What we claim as new, and secured by letters patent is:

5

CLAIMS

1. A method for displaying information indicative of content of a target document of a link displayed in a first window, the method comprising:
 - detecting an event indicative of a user's interest in said target document;
 - retrieving said information indicative of content of said target document;
 - 10 opening a second window; and
 - placing said information indicative of content of said target document in said second window.
2. The method of claim 1 further comprising providing, within said second window, a user-interface element for interacting with said second window.
- 15 3. The method of claim 2 wherein providing a user-interface element for interacting with said second window comprises
 - providing a jump interface-element on said second window, and
 - associating said jump interface-element with instructions for enabling a user to display said target document.
- 20 4. The method of claim 2 further wherein providing a user-interface element for interacting with said second window comprises
 - providing a remember interface-element on said second window, and
 - associating said remember interface-element with instructions for saving information identifying a location of said target document.

- 5 5. The method of claim 4 further comprising associating said remember interface-
element with instructions for saving said information identifying a location of said
target document in a user-profile database.
6. The method of claim 4 further comprising providing a reminisce control for
retrieving said information identifying a location of said target document.
- 10 7. The method of claim 1 wherein retrieving said information indicative of content
of said target document comprises requesting said information from a summary-
providing computer system.
8. The method of claim 7 wherein requesting said information indicative of content
of said target document comprises providing said summary-providing computer
15 system with address information indicative of a location of said information.
9. The method of claim 8 wherein providing address information to said summary-
providing computer system comprises providing a URL to said summary-
providing computer system.
- 20 10. The method of claim 1 wherein detecting an event indicative of a user's interest in
said target document comprises detecting entry of a mouse pointer into an active
region associated with said link.
11. The method of claim 1 wherein detecting an event indicative of a user's interest in
said target document comprises detecting a pre-selected spoken utterance
associated with said link.
- 25 12. The method of claim 1 wherein opening a second window comprises executing
instructions incorporated into said link.
13. The method of claim 12 wherein said instructions are JavaScript instructions.

- 5 14. The method of claim 5 further comprising selecting said user-profile database to
be a remotely located database.
15. The method of claim 1 wherein retrieving said information comprises displaying
information hard-coded into said link.
- 10 16. The method of claim 1 wherein retrieving said information comprises determining
an address of said information and requesting said information from a location
identified by said address.
17. A method for displaying information associated with a target web page of a link,
said method comprising:
- detecting entry of a pointer into an active region associated with said link;
- 15 in response to said entry, displaying a window containing said
information associated with a target web page;
- providing, within said window, at least one user-interface element for
interacting with said window.
18. The method of claim 17 wherein providing said at least one user-interface element
20 comprises providing a user-interface element associated with instructions for
remembering information indicative of a location of said target web page.
19. The method of claim 18 wherein providing said at least one user-interface element
further comprises providing a user-interface element associated with instructions
for retrieving said information indicative of said location of said target web page.
- 25 20. The method of claim 17 wherein providing said at least one user-interface element
comprises providing a user-interface element associated with instructions for
displaying said target web page.

- 5 21. The method of claim 18 wherein remembering information indicative of a location of said target web page comprises providing a user-profile database and storing said information indicative of a location of said target web page in said user-profile database.
- 10 22. A method for displaying information indicative of content of a target document of a link displayed in a first window, the method comprising:
- detecting an event indicative of a user's interest in said target document;
- retrieving said information indicative of content of said target document;
- and
- presenting said information to said user.

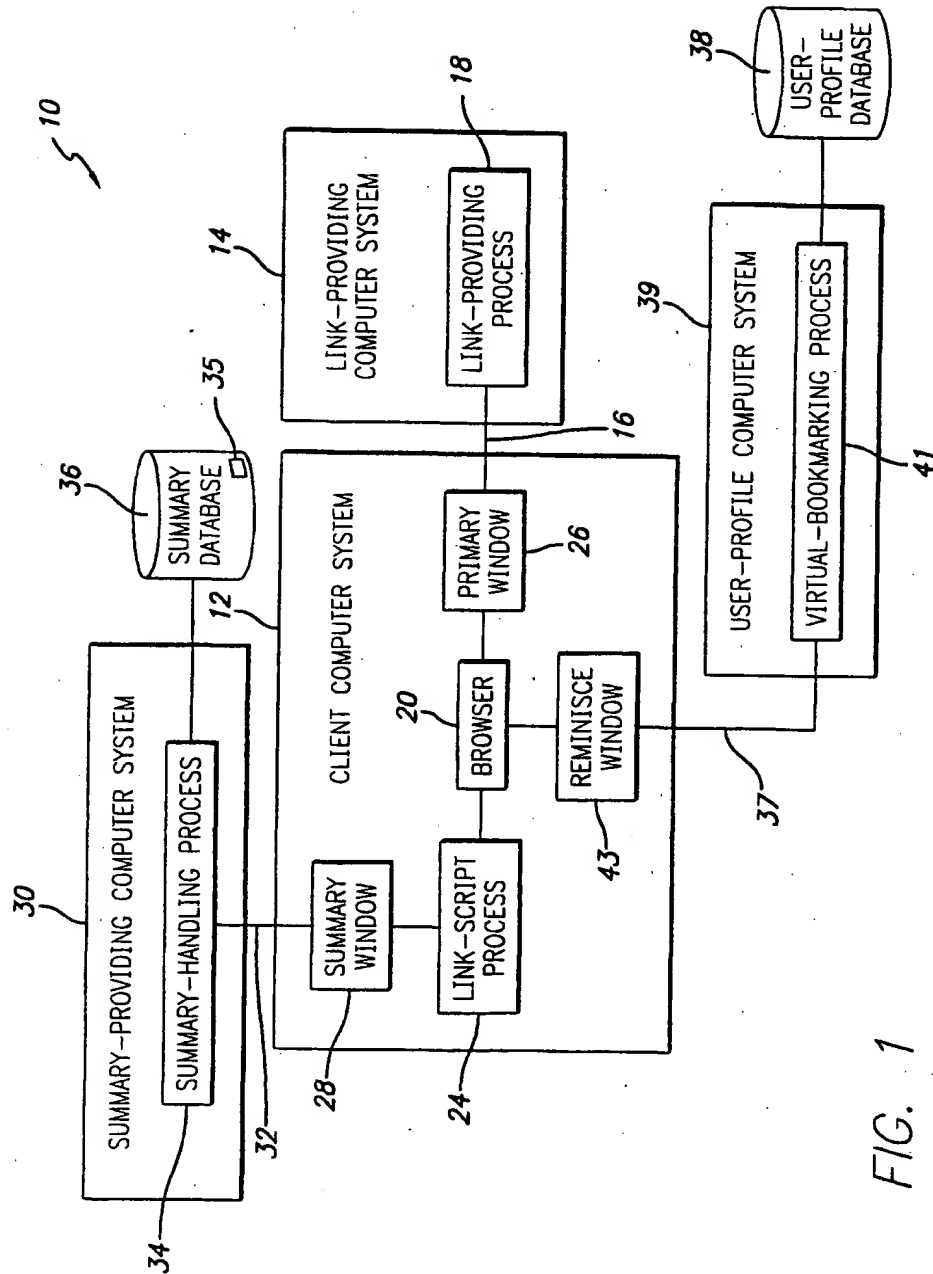


FIG. 1

FIG. 2

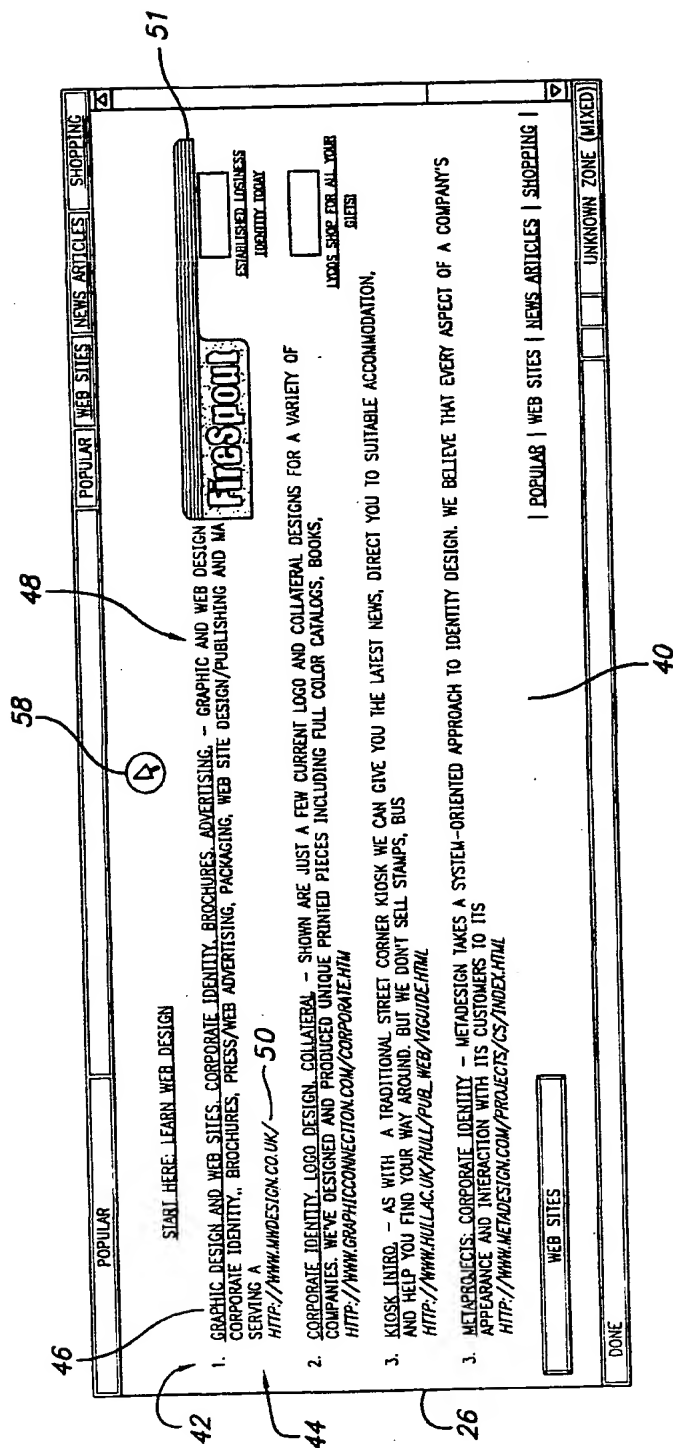


FIG. 3

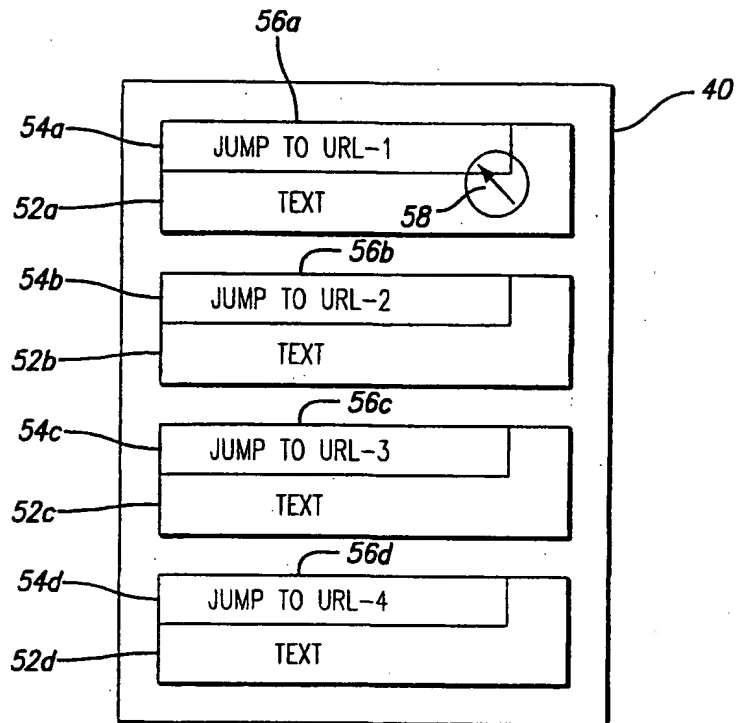
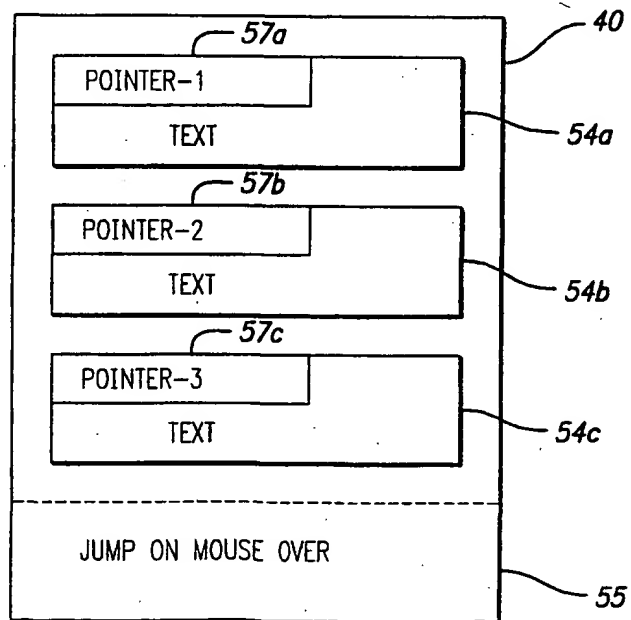


FIG. 4



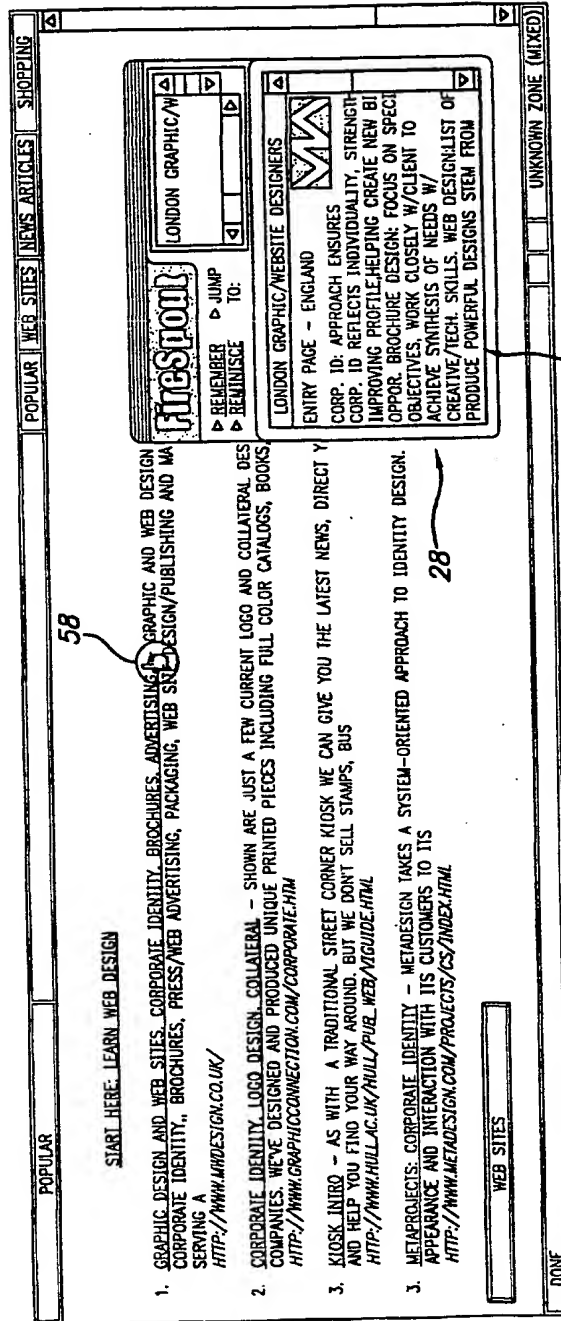


FIG. 5

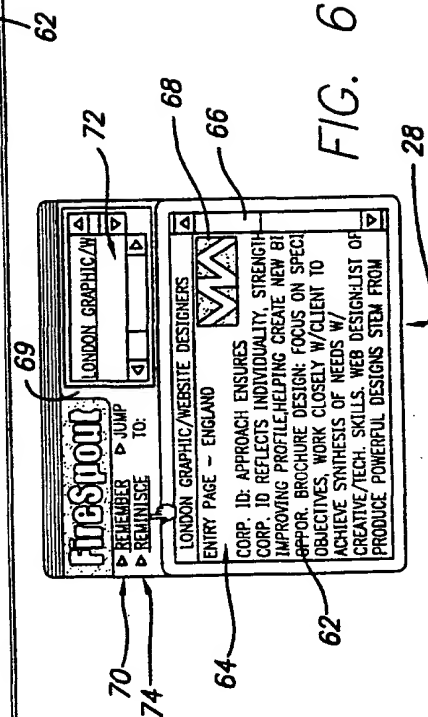


FIG. 6

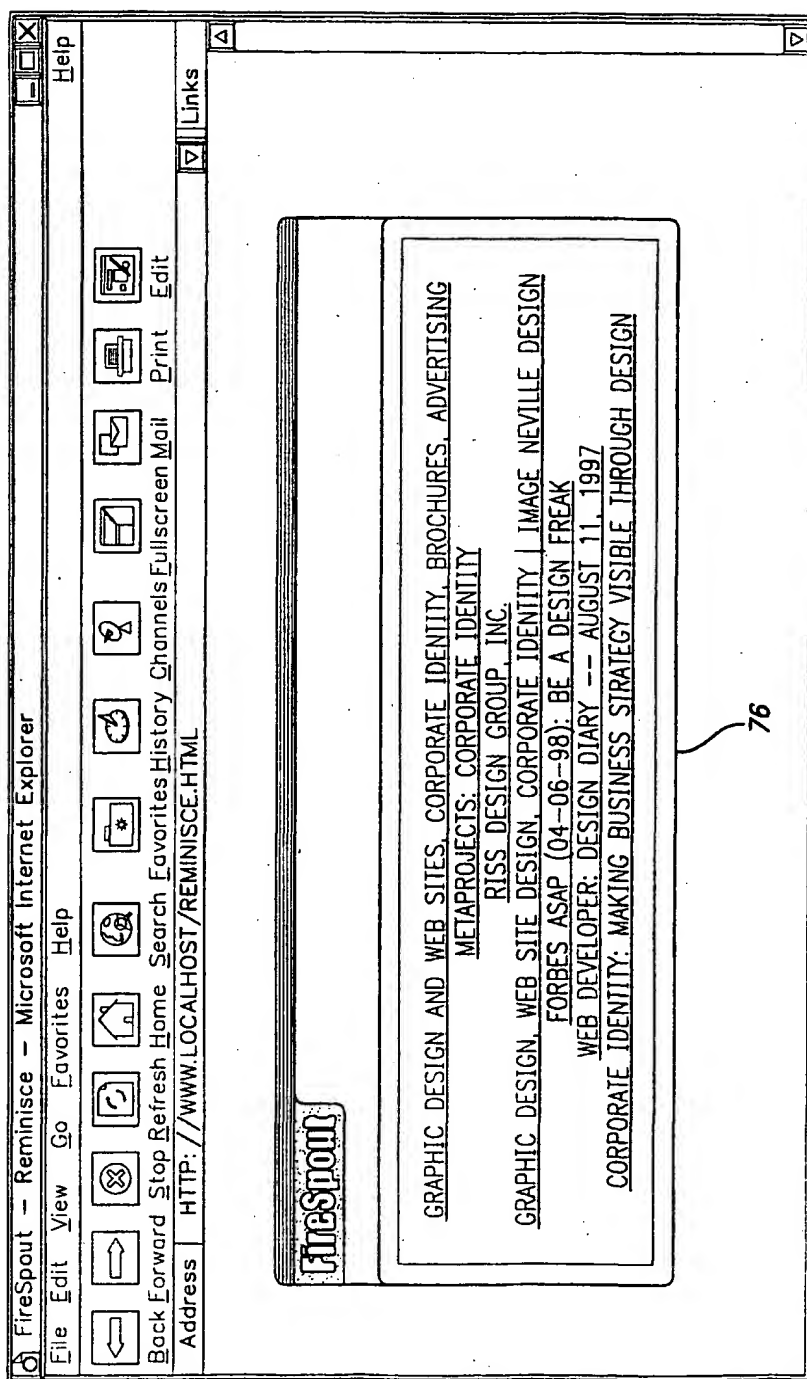


FIG. 7

THIS PAGE BLANK (USPTO)

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☒ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

THIS PAGE BLANK (USPTO)